CONNECTED VEHICLE

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Florida Department of Transportation

Agenda

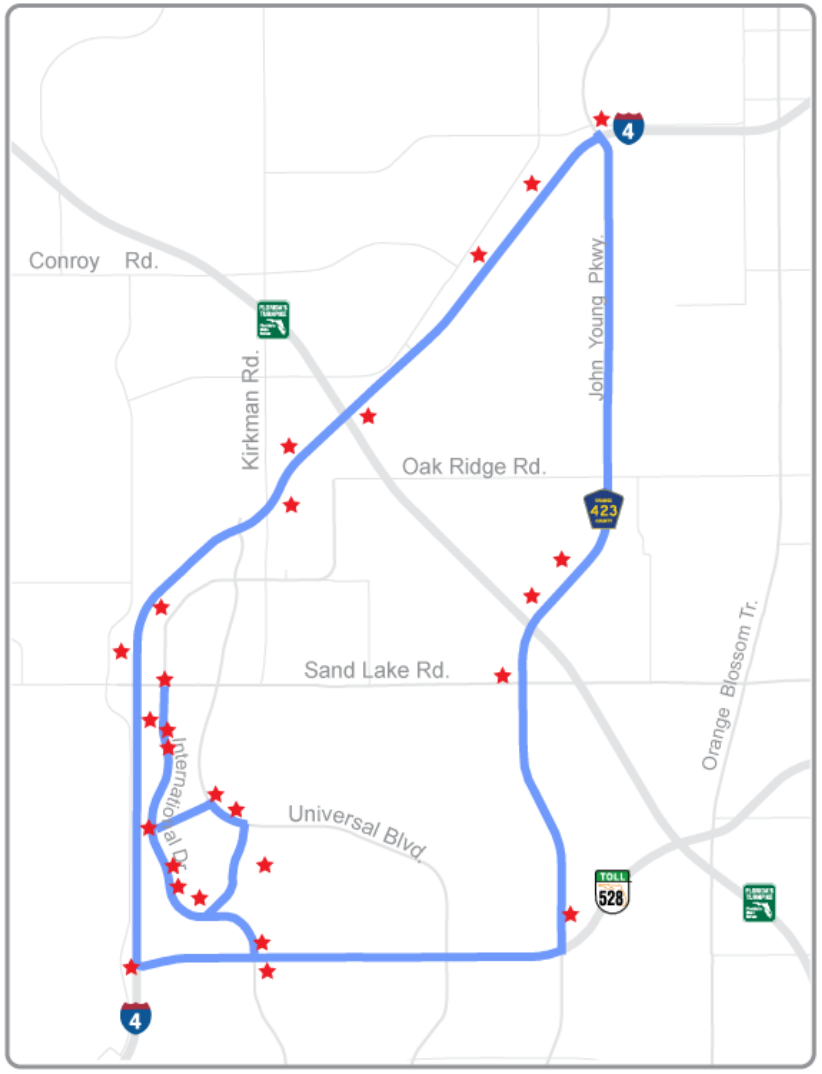
- Why is Connected Vehicle Important
- Affiliated Test Bed
- Connected Vehicle Demonstration

Statistics

- Estimates indicate that connected vehicle technology can resolve about 80 percent of traffic incidents caused by non-impaired drivers

Affiliated Test Bed

- Coordinated by USDOT
- Orlando test bed – One of six nationally
- Data store located in Tennessee
- FDOT focus on safety and mobility
- Agency partnerships



Connected Vehicle Demonstration

Roadside Unit

- Installed at Richard Petty Driving Experience
- Communicates with autonomous vehicles, overheight detectors, and SunGuide software
- Facilitates safety applications (i.e. wrong-way detection)

Onboard Unit

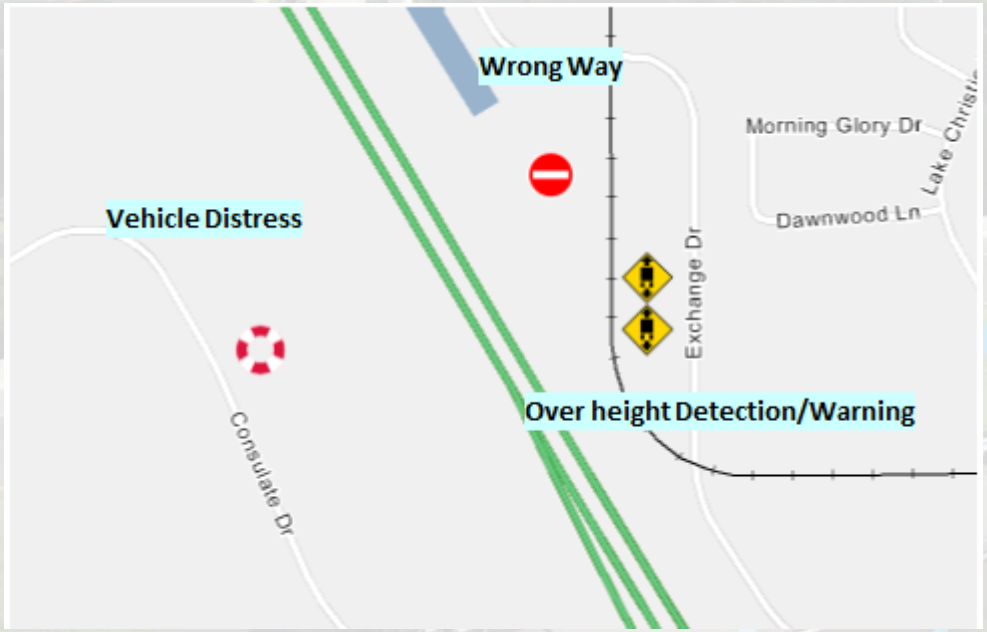
- Installed in vehicles
- Communicates with other vehicles and roadside equipment
- Performs local processing to interface with the driver and autonomous systems in the vehicle

Prototype display and radio/CPU

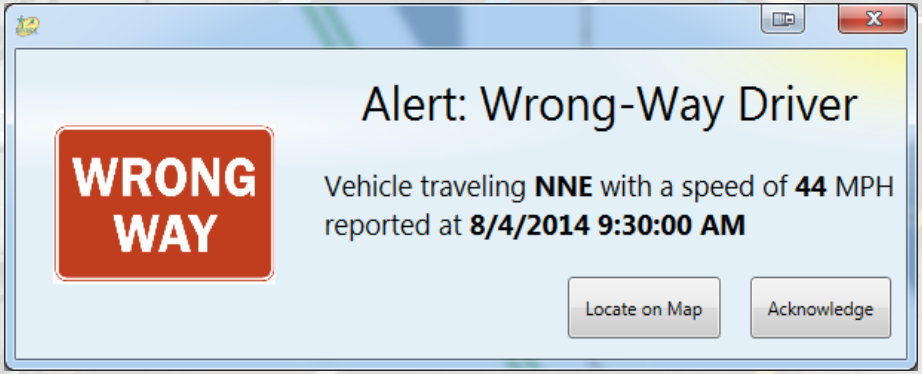
Overheight Detector

- Overheight detection unit
- Beam across roadway between pair
- Installed on short poles across roadway
- Communicates with roadside unit

SunGuide Software Modification



- Special prototype build
- Supports vehicle-to-infrastructure applications



FDOT

CONNECTED VEHICLE

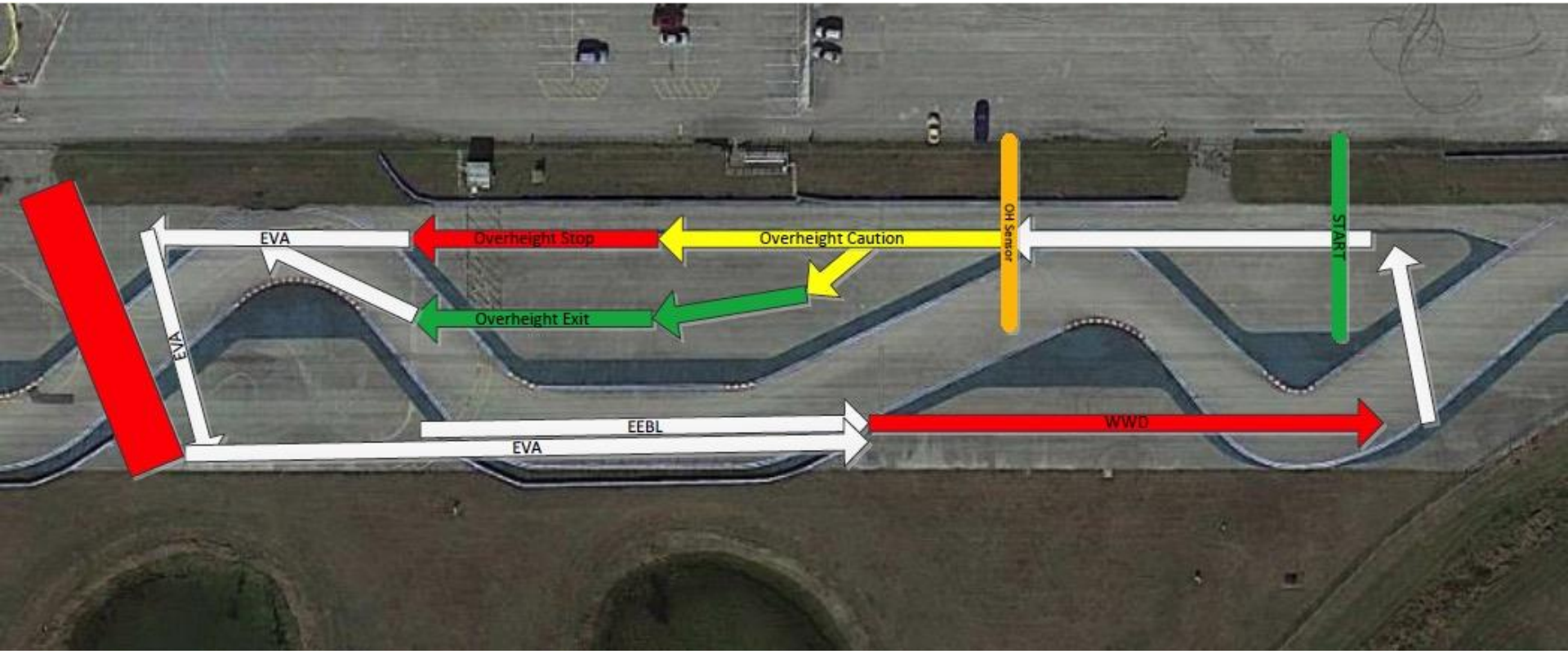
Autonomous Vehicle Operations

- Commercial vehicle autonomy
- Autonomously driven for portions of the demonstration route
- Autonomously applies brakes in response to overheight warning

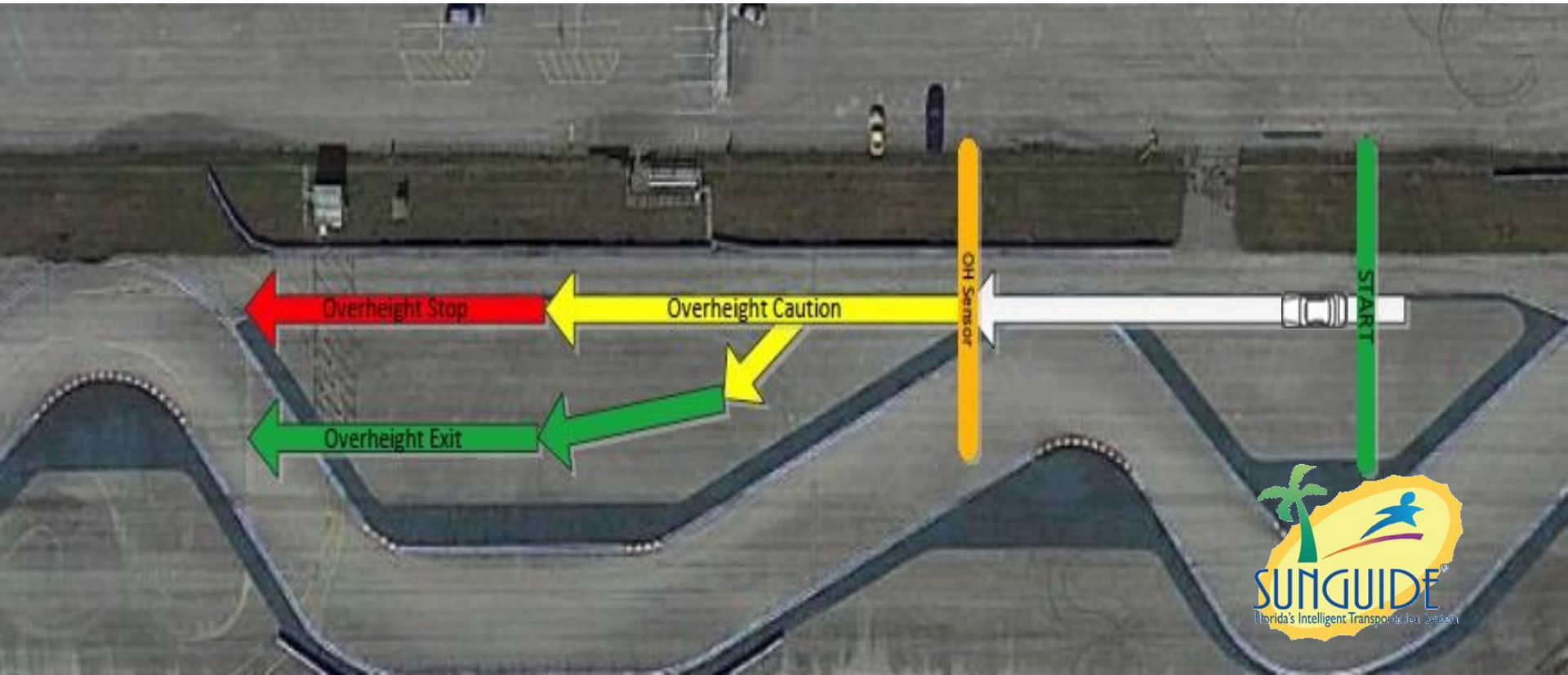
Connected Vehicle and Autonomous Vehicle Demonstrations

- Vehicle-to-infrastructure (V2I)
  - Wrong-way driver detection and alert
  - Overheight detection and alert
- Vehicle-to-vehicle (V2V)
  - Emergency braking
  - Emergency vehicle alert

Demonstration Route



Overheight Detection and Alert



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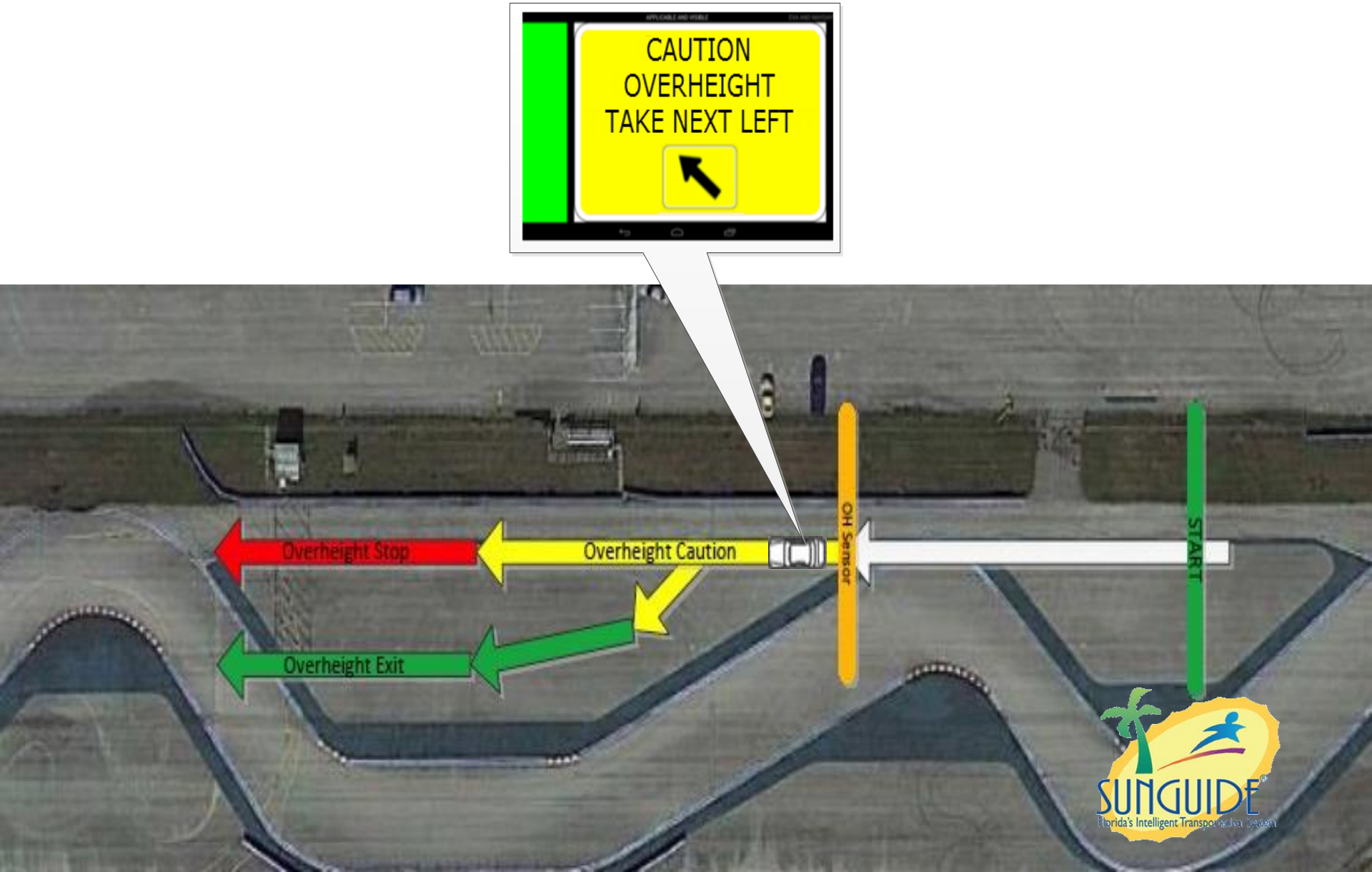

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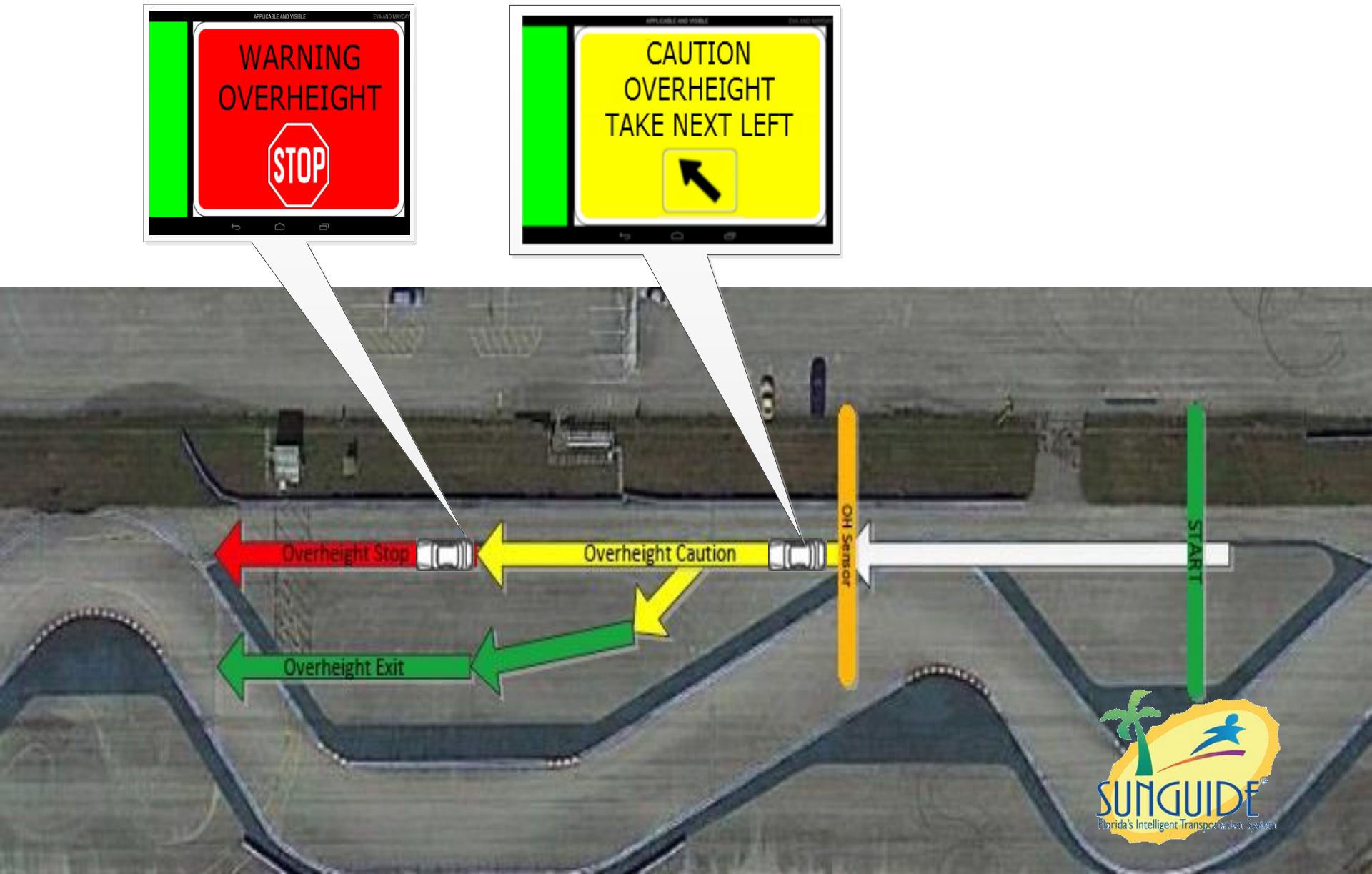

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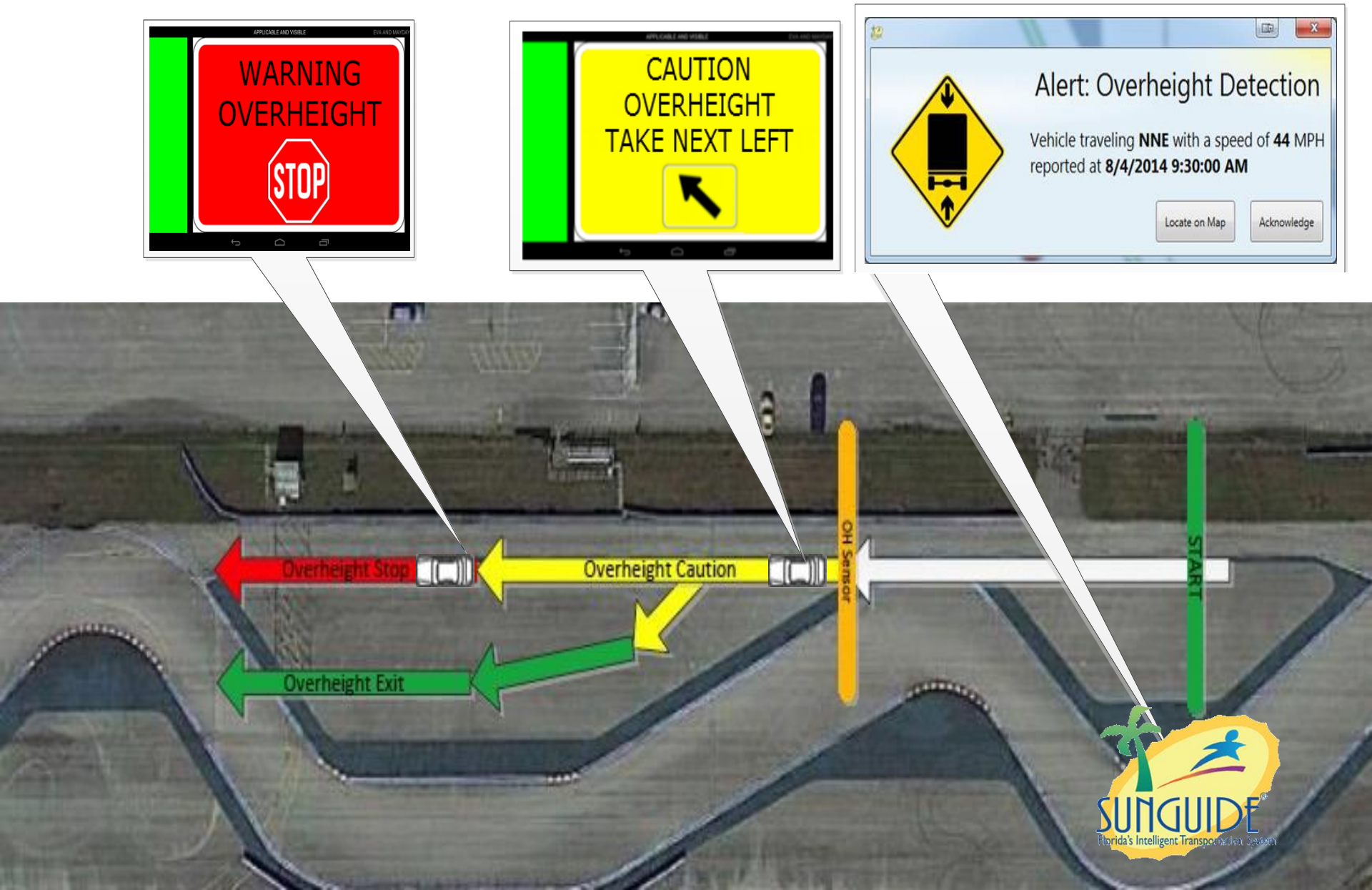
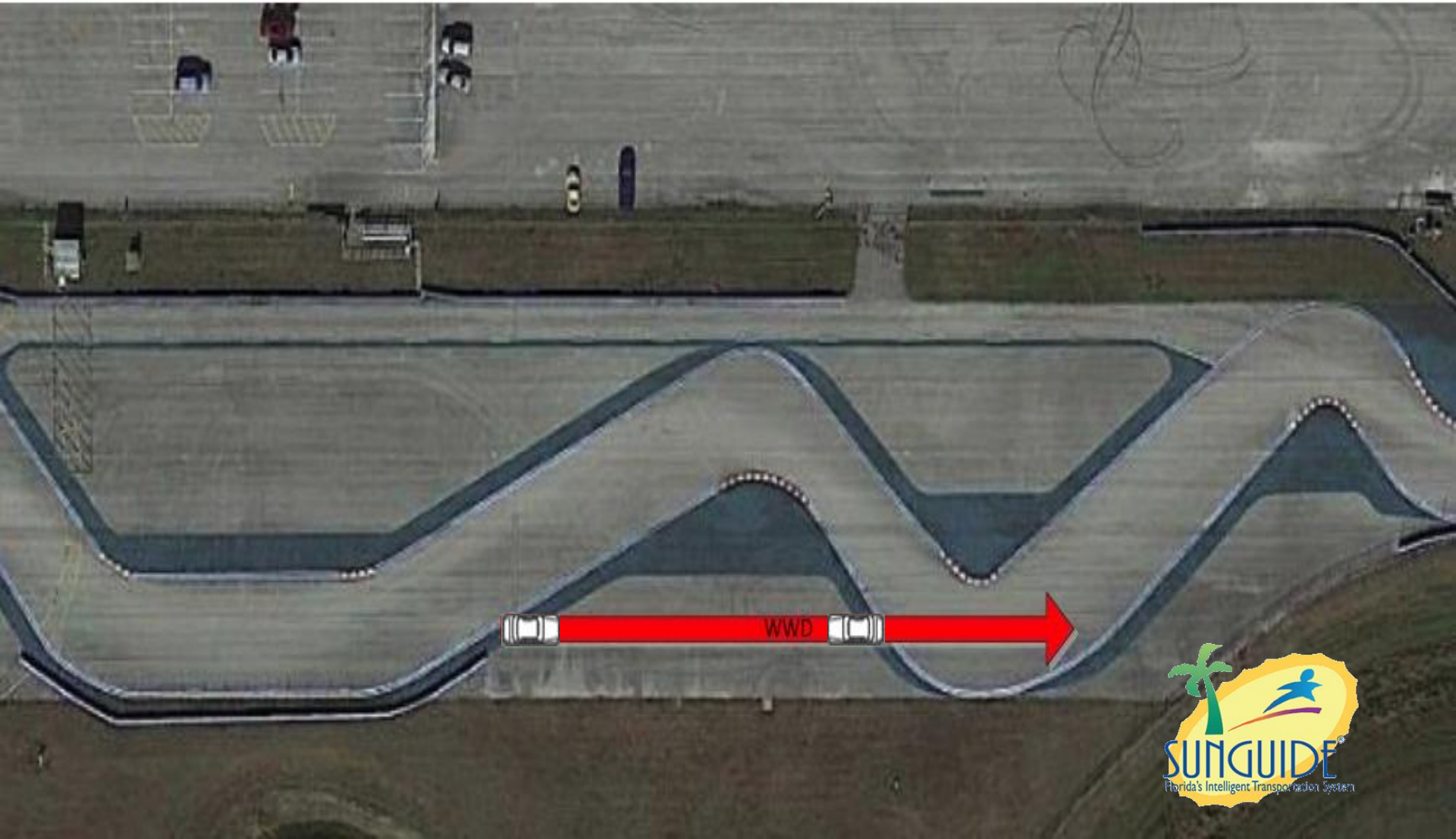


Wrong Way Driver Detection and Alert



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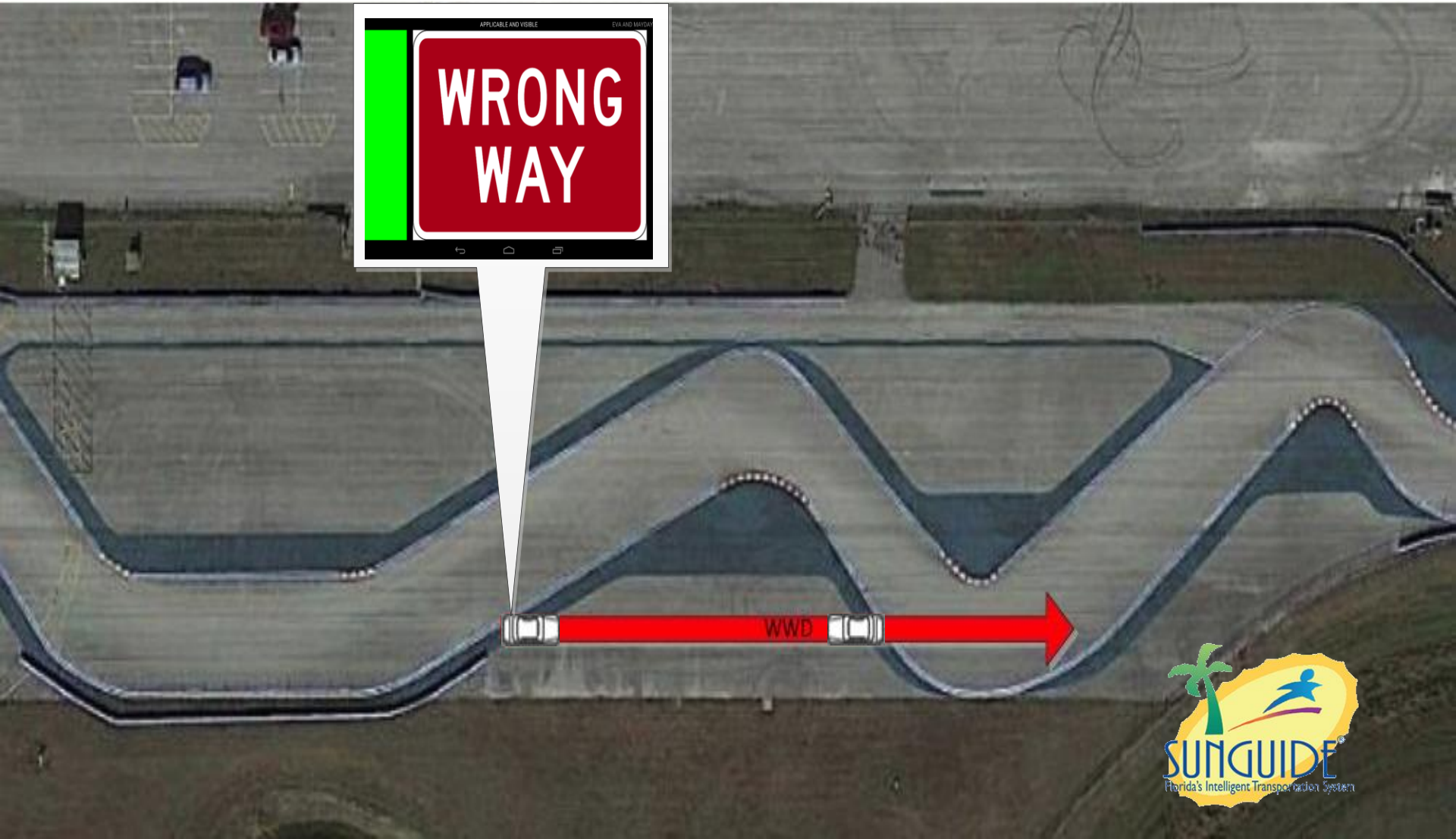

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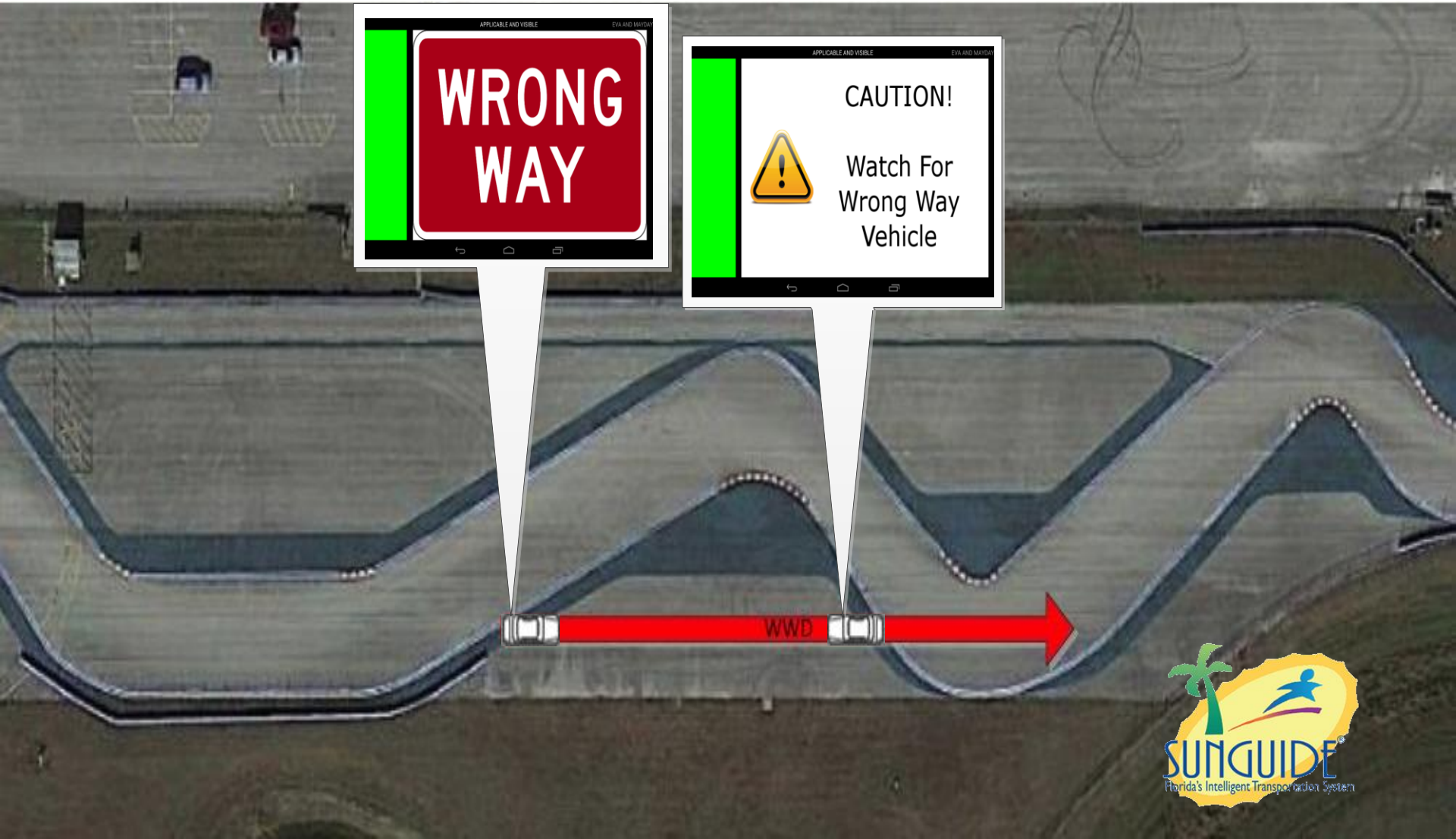

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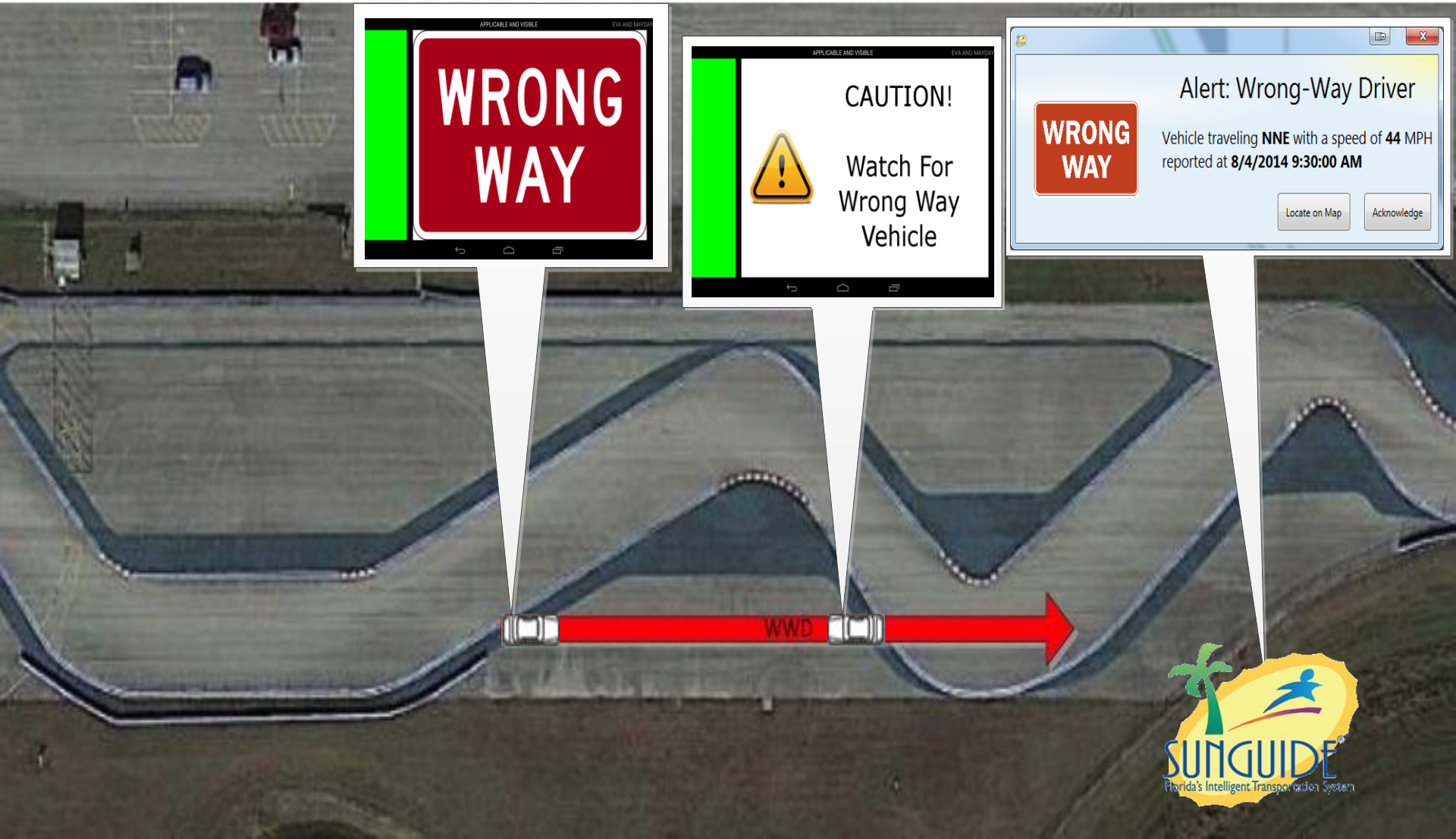
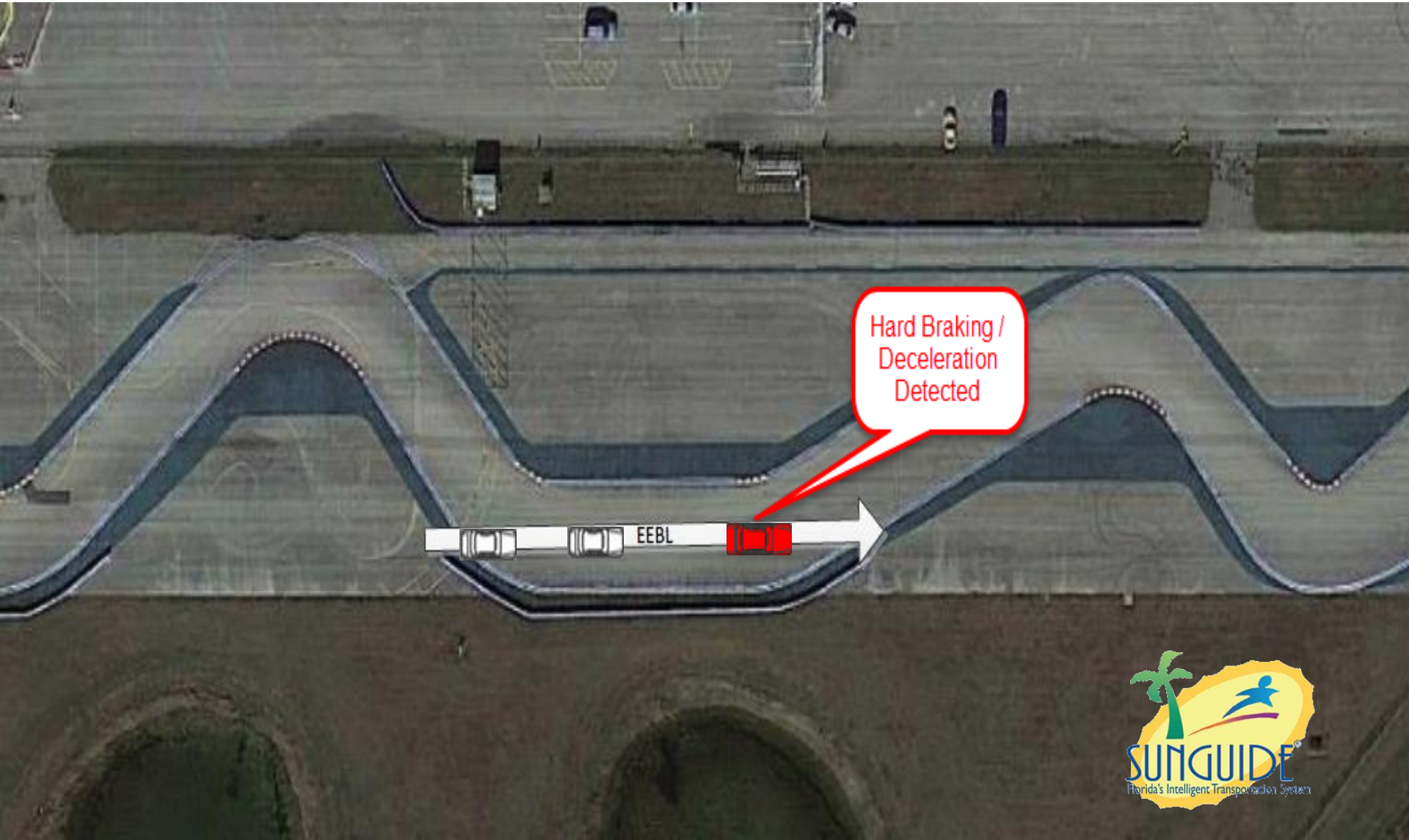


Emergency Braking



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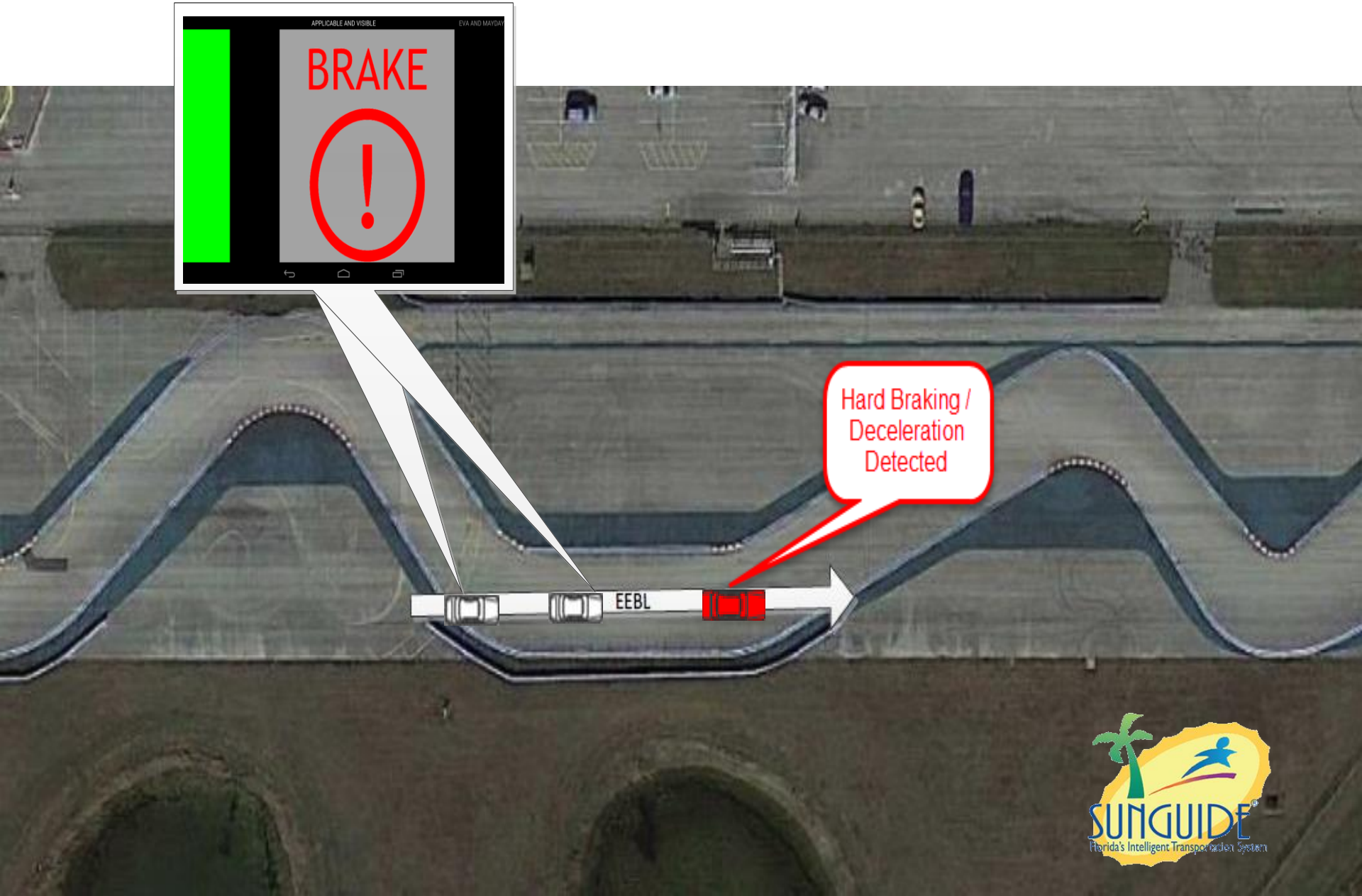

Emergency Vehicle Alert

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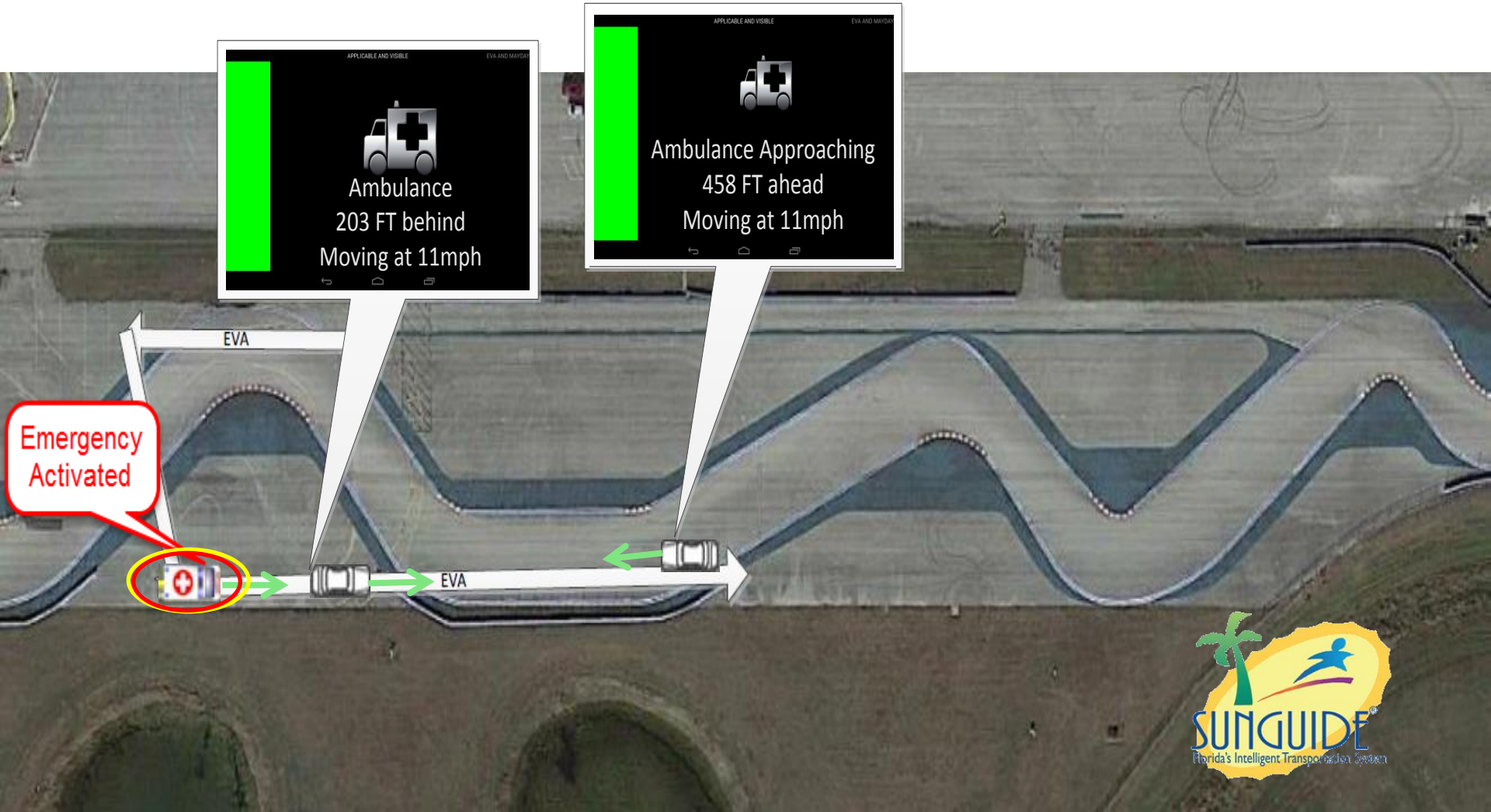

QUESTIONS?

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